

## **Energy Innovations Small Grant Program Final Report Instructions**

### **Style Instructions**

Font Type: Times Roman or Helvetica

Font Size: 12 pt

Margins: 1-inch minimum

Headers/Footers: No headers. Use continuous page number footer from front to back except for front matter, which is numbered with roman numerals. Do not number paragraphs.

Bindings: Spring clips only

Copies: Draft Report (3 paper copies, 1 electronic MS Word copy emailed or on disk)

Final Report (2 paper copies, 1 electronic MS Word copy emailed or on disk)

Paper Copies: Printed single sided

### **Final Report Outline**

Cover Page (*example provided*)

Legal Notice (*provided*)

Acknowledgement Page (*optional*)

Table of Contents (*example provided*)

Abstract (*250 words*)

Executive Summary (*2-3 pages*)

Introduction (*body of main report 12-18 pages*)

Project Objectives

Project Approach

Project Outcomes

Conclusions

Recommendations

Public Benefits to California

References

Glossary

Appendices (*no limit specified*)

Development Status Questionnaire

Detailed guidelines for each of the sections listed in the outline above are posted on our web site at [www.energy.ca.gov/research/innovations](http://www.energy.ca.gov/research/innovations) under “Active Award Document Resources”. Please refer to the “**Final Report Instructions**” document. If you do not have Internet access, you need to request a paper copy of this document. Since this document is updated over time it is important to obtain the most current version posted on the web prior to starting the final report.

After reviewing the final report instructions please send Steve Russell ([srussell@projects.sdsu.edu](mailto:srussell@projects.sdsu.edu)) an outline of the Final Report that as a minimum identifies the Project Objectives, Project Outcomes, Conclusions and Recommendations that will be reported on in the report. Then call Steve Russell (619) 594-3293 or Hal Clark (619) 594-1158 to discuss the outline and to obtain answers to any questions you may have. These two steps are intended to provide early feedback that can greatly facilitate the production of the report and minimize the need for extensive revisions later.

If proprietary/confidential information is needed in the report to fully communicate the research findings, all such information must be confined to a proprietary appendix, which will be protected and not released to the public. The remainder of the report must be non-proprietary and authorized unrestricted public distribution.

## **General Guidelines**

1. The report should be written to the level of an inquisitive, reasonably well-educated lay reader. Imagine that the reader just paid for this research project and they want to understand how you spent their money and the rationale for proceeding in the direction chosen.
2. Apply the test of completeness. Are all the pieces there? Are all the references clear and do those in the text match those in the reference section? Are the relationships between the partners and the players clearly explained?
3. Apply the test of logic. Does the document flow and make sense? Is the need for the research clearly described? Is the technical approach clearly described? Do the conclusions make sense? Are they drawn from the analysis? Do the numbers check? Is it clear how the numbers were derived?
4. If the project didn't do everything it intended to do, explain.
5. The final report must primarily address the specific research objectives that were funded with EISG funds. Doing this will help manage the scope and the effort required for this report. In projects where there was cost sharing with other funding sources you need to make clear what portions were funded with EISG funds. If the EISG project was just a small part of a larger project you should not intermingle comments related to the larger project with comments about the EISG project that would in any way confuse the reader about the work performed as part of the EISG project.
6. There needs to be a clear relationship between the objectives and the outcomes. The outcomes of the EISG funded research project needs to be clearly differentiated from the outcomes of the overall program of which the research is a part. The outcomes of the program should not be intermingled with the outcomes of the project.
7. The methods used to conduct the research need to be explained.
8. Data that is presented in the report needs to be analyzed. If you present a picture, graph or table, be sure that you discuss and interpret its meaning in the text, not just refer to it.
9. Each conclusion needs to be substantiated by the analysis contained in the report.
10. Figures and Tables must clearly relate to, and be consistent with the text, and vice versa. (If the text says the generator had a capacity of 30 kW, the table should not say it was 31.2 kW.)
11. Use consistent references to report performance specifications and results. For example, if a piece of equipment is to be referred to by its nominal nameplate rating then use that reference consistently throughout the report. If, however, the desired number was the measured performance of the device, (almost always different from nameplate) then consistently use that measured number. Do not mix the two in the narrative.
12. The text needs to clearly refer to the attached appendices. It should also explain how the data in the appendices matters to the text. If it doesn't really matter, it probably should be dropped. (You may still need it because it is a deliverable according to the grant agreement, so check this carefully.) References to multi-page appendices need to be specific to the page or section of the appendix, not just a general reference to Appendix X.

NOTE: The abbreviation "CEC" is not allowed in final reports. Choose either Commission or Energy Commission throughout the report. Be consistent with one of the choices, and use it throughout the report.

**Appendix A to FAR 99-04**

**ENERGY INNOVATIONS SMALL GRANT  
(EISG) PROGRAM**

**EISG FINAL REPORT**

**PROCESS FOR CONVERTING SEWAGE SLUDGE AND MUNICIPAL SOLID  
WASTES TO CLEAN FUELS**

**EISG AWARDEE**

Worldwide ENVIRONMENTAL ENERGY SYSTEMS INC.

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Grant Funding: \$75,000

Term: September 1999 – July 2001

PIER Subject Area: Renewable Energy Technologies

## Legal Notice

This report was prepared as a result of work sponsored by the California Energy Commission (Commission). It does not necessarily represent the views of the Commission, its employees, or the State of California. The Commission, the State of California, its employees, contractors, and subcontractors make no warranty, express or implied, and assume no legal liability for the information in this report; nor does any party represent that the use of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Commission nor has the Commission passed upon the accuracy or adequacy of the information in this report.

Inquires related to this final report should be directed to the Awardee (see contact information on cover page) or the EISG Program Administrator at (619) 594-1049 or email [eisgp@energy.state.ca.us](mailto:eisgp@energy.state.ca.us).

## Acknowledgement Page

*(Optional)*

*This is the place for the author or principal investigator to acknowledge or express appreciation to those who participated in the project. This may be a paragraph, or a list of names, and if appropriate their affiliations.*

## Table of Contents

*Sample Table of Contents*

<b>Abstract.....</b>	<b>1</b>
<b>Executive Summary.....</b>	<b>#</b>
<b>Introduction.....</b>	<b>#</b>
<b>Project Objectives.....</b>	<b>#</b>
<b>Project Approach.....</b>	<b>#</b>
<b>Project Outcomes.....</b>	<b>#</b>
<b>Conclusions.....</b>	<b>#</b>
<b>Recommendations.....</b>	<b>#</b>
<b>Public Benefits to California .....</b>	<b>#</b>
<b>References.....</b>	<b>#</b>

<b>End Notes.....</b>	<b>#</b>
<b>Glossary.....</b>	<b>#</b>
<b>Appendices</b> ( <i>Appendices are numbered using roman numerals I, II, III etc.</i> )	
<b>Development Status Questionnaire.....</b>	<b>#</b>

## **List of Figures**

*(Insert list of figures at end of table of contents)*

## **List of Tables**

*(Insert list of tables after list of figures)*

## **Abstract**

This section should be the technical counterpart to the executive summary. Less marketing and sales oriented than the Executive Summary. This should be similar to what you would find in a technical trade periodical. Limited to 250 words, essentially a very brief Executive Summary. The Abstract covers the purpose, objectives, outcomes and conclusions. Geared toward a more technical audience.

Key Words: (List 5-10 key words for computer searches)

## **Executive Summary**

A miniature final report that summarizes the content in the following sections in two to three pages:

1. Introduction (*Why this project was necessary*)
2. Project Objectives (*What you planned to accomplish that is measurable or knowable*)
3. Project Outcomes (*What were the actual factual findings*)
4. Conclusions (*What is the meaning or interpretation of the factual findings*)
5. Recommendations (*What you think should occur next*)
6. Public Benefits to California (*Who will benefit from this research*)

Numbered list formatting is suggested to keep it short and concise. Assume a non-technical, management-level readership. Put on the hat of an inquisitive, reasonably well-educated lay reader who may be interested in purchasing or implementing the subject technology. The Executive Summary should not introduce new information that is not discussed in the main body of the report.

## **Introduction**

- Background and Overview (Why this project was necessary) - Provide relevant background; identify this project's PIER subject area and the goals of this research.
- Report Organization – Provides a brief high-level roadmap to the rest of the report.

## **Project Objectives**

*(What you planned to accomplish that is measurable or knowable)* - Present the technical and economic Objectives for your project. Include all Objectives that were identified in the original scope of work. In order to be listed as an Objective the research plan must have included a method for determining

the answer. New Objectives that emerged during the project should also be listed and the reasons for the new direction discussed in the Project Approach section.

Each Objective shall be separately identified, a useful form is:

Project objectives were to:

- Verify (an action verb followed by relevant text)....
- Demonstrate
- Measure...
- Develop....

## **Project Approach**

This section proceeds task by task (as proposed in your grant application), with a discussion of your approach to the research in each task. New tasks that emerged during the project should also be listed and discussed as they occurred during the actual workflow, together with the reasons for the new tasks. Tasks are simply what you did to accomplish your objectives, for example, the testing procedures you undertook and the system modifications and improvements you made.

## **Project Outcomes**

This is where you present your results in terms of Outcomes (*What were the actual factual findings*). Organize this section so that Outcomes are presented in the same order as the Objectives. A short version of each Outcome should be stated in list form. Supporting paragraphs that describe each Outcome should follow each bullet.

There can be more Outcomes than there were Objectives. For example, there may be more than one Outcome per Objective. It is also possible to have an unanticipated Outcome during your research. However, you cannot have stranded objectives, all Objectives, whether met or not, must be discussed in this section. If this section is particularly long, then it is useful to create a summary at the end of this section where all of the list elements are drawn together as a summary. Also, all Outcomes must be disclosed. You cannot have hidden Outcomes.

## **Conclusions**

Conclusions (*What is the meaning or interpretation of the factual findings*)- Organize the Conclusions in the same order as Objectives and Outcomes. You may have Conclusions that are broader than individual Objectives and Outcomes. Please present these after you present the individual Conclusions. Conclusions must be drawn from evidence presented in the report. You should also include Conclusions regarding the commercialization potential of the proposed technology based on the new research findings.

## **Recommendations**

Recommendations (What you think should occur next) - Recommendations should derive from the Conclusions presented. Recommendations specific to individual Objectives, Outcomes and Conclusions should be presented in the original order. General Recommendations should follow. What are the next logical research objectives that need to be accomplished to advance this technology?

## **Public Benefits to California**

This section discusses two issues: (1) what Benefits has California already received from this contract, if applicable, and (2) if this project is successful and the results widely used, how will California Benefit. If the Benefit is monetary savings calculate the potential yearly savings and identify all supporting

assumptions used in the calculation. All cited Benefits must be attributable to the proposed technology that was the subject of the grant research.

## **Endnotes**

Endnotes are preferred to footnotes.

## **Glossary**

If there are more than 10 acronyms and/or uncommon technical terms then a glossary with definitions for each should be provided at the end of the report.

## **References**

This is where you list all documents referred to in the body of the report. List references in standard bibliographic format. Be sure to check that shorthand references contained in the body of the report are accurate. Any documents referred to in the Appendices should be listed in the reference section in the appropriate Appendix.

## **Appendices**

Designated by Roman numerals. Information that is not directly related to the work that was performed in this project or contains supporting details should be included in the appendices (i.e., summary of literature search, test plans, raw test data, business plans etc.).

All proprietary/confidential information that is needed to fully assess the success of the project should be included in the last appendix and clearly labeled as either proprietary or confidential. The proprietary appendix will be protected and not released to the public. The remainder of the report must be non-proprietary and authorized unrestricted public distribution.

## **Development Status Questionnaire**

The answers provided in this questionnaire will provide the EISG Program Administrator with the information to more fully assess the development status of the project results. This information will be used in conjunction with the final report and other sources to write the independent assessment on the research project, which may include a follow-on funding recommendation within PIER and a recommendation for development assistance.

**California Energy Commission**  
Energy Innovations Small Grant (EISG) Program  
**PROJECT DEVELOPMENT STATUS**

## Questionnaire

Answer each question below and provide brief comments where appropriate to clarify status. If you are filling out this form in MS Word the comment block will expand to accommodate inserted text.

Questions	Comments:
<b>Overall Status</b>	
1) Do you consider that this research project proved the feasibility of your concept?	<i>Briefly state why.</i>
2) Do you intend to continue this development effort towards commercialization?	<i>If NO, indicate why and answer only those questions below that are still relevant.</i>
<b>Engineering/Technical</b>	
3) What are the key remaining technical or engineering obstacles that prevent product demonstration?	
4) Have you defined a development path from where you are to product demonstration?	
5) How many years are required to complete product development and demonstration?	
6) How much money is required to complete engineering development and demonstration?	<i>Do not include commercialization costs such as tooling.</i>
7) Do you have an engineering requirements specification for your potential product?	<i>This specification details engineering and manufacturing needs such as tolerances, materials, cost, stress etc. If NO indicate when you expect to have it completed.</i>
<b>Marketing</b>	
8) What market does your concept serve?	<i>Residential, commercial, industrial, other.</i>
9) Is there a proven market need?	<i>If YES, what sources did you use to determine market need?</i>
10) Have you surveyed potential end users for interest in your product?	<i>If YES, the results of the survey should be discussed in the Final Report.</i>
11) Have you performed a market analysis that takes external factors into consideration?	<i>External factors include potential actions by competitors, other new technologies, or changes in regulations or laws that can impact market acceptance of your product?</i>
12) Have you compared your product with the competition in terms of cost, function, maintenance etc.?	
13) Have you identified any regulatory, institutional or legal barriers to product acceptance?	<i>If YES, how do you plan to overcome these barriers?</i>
14) What is the size of the potential market in California?	<i>Identify the sources used to assess market size.</i>
15) Have you clearly identified the technology that can be patented?	<i>If NO, how do you propose to protect your intellectual property?</i>

16) Have you performed a patent search?	<i>If YES, was it a self-search or professional search and did you determine if your product infringes or appears to infringe on any other active or expired patent?</i>
17) Have you applied for patents?	<i>If YES, provide the number of applications.</i>
18) Have you secured any patents?	<i>If YES, provide the patent numbers assigned and indicate if they are generic or application patents.</i>
19) Have you published any paper or publicly disclosed your concept in any way that would limit your ability to seek patent protection?	<i>If YES, is it your intent to put the intellectual property into the public domain?</i>
<b>Commercialization Path</b>	
20) Can your organization develop and produce your product without partnering with another organization?	<i>If YES, indicate how you would accomplish that. If NO, indicate who would be the logical partners for development and manufacture of the product.</i>
21) Has an industrial or commercial company expressed interest in helping you take your technology to the market?	<i>If YES, are they a major player in the marketplace for your product?</i>
22) Have you developed a commercialization plan?	<i>If yes, has it been updated since completing your grant work?</i>
23) What are the commercialization risks?	<i>Risks are those factors particular to your concept that may delay or block commercialization.</i>
<b>Financial Plan</b>	
24) If you plan to continue development of your concept, do you have a plan for the required funding?	
25) Have you identified funding requirements for each of the development and commercialization phases?	
26) Have you received any follow-on funding or commitments to fund the follow-on work to this grant?	<i>If YES, indicate the sources and the amount. If NO, indicate any potential sources of follow-on funding.</i>
27) Have you identified milestones or key go/no go decision points in your financial plan?	
28) What are the financial risks?	
29) Have you developed a comprehensive business plan that incorporates the information requested in this questionnaire?	<i>If YES, can you attach a non-proprietary version of that plan to your final report?</i>
<b>Public Benefits</b>	
30) What sectors will receive the greatest benefits as a result of your concept?	<i>Residential, commercial, industrial, the environment, other.</i>
31) Identify the relevant savings to California in terms of kWh, cost, reliability, safety, environment etc.	<i>Show all assumptions used in calculations.</i>
32) Does the proposed technology impact emissions from power generation?	<i>If YES, calculate the quantity in total tons per year or tons per year per relevant unit. Show all assumptions used in calculations.</i>
33) Are there any potential negative effects from the application of this technology with regard to public safety, environment etc.?	<i>If YES, please specify.</i>

<b>Competitive Analysis</b>	
34) Identify the primary strengths of your technology with regard to the marketplace.	<i>Identify top 3.</i>
35) Identify the primary weaknesses of your technology with regard to the marketplace.	<i>Identify top 3.</i>
36) What characteristics (function, performance, cost etc.) distinguishes your product from that of your competitors?	
<b>Development Assistance</b>	
<p>The EISG Program may in the future provide follow-on services to selected Awardees that would assist them in obtaining follow-on funding from the full range of funding sources (i.e. Partners, PIER, NSF, SBIR, DOE etc.). The types of services offered could include: (1) intellectual property assessment; (2) market assessment; (3) business plan development etc.</p>	
37) If selected, would you be interested in receiving development assistance?	<i>If YES, indicate the type of assistance that you believe would be most useful in attracting follow-on funding.</i>